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ABSTRACT

Seventy-seven of 100 universities from the United States, Canada, and the United Kingdom were surveyed with regard to educational, methodological, and ethical practices in using introductory psychology subject pools. Survey items were based on dimensions employed by Jung and on newly salient goals of the subject pool as suggested earlier by Miller. Responses of 76 American and Canadian universities were analyzed. Results proved that the publication of ethical guidelines for research has produced a general shift in subject utilization procedures. Universities are shifting to less coercive systems than found in previous surveys. Experimental participation as a requirement, with other options to fulfill that requirement has become the most popular form of subject pool. In general, while most universities appear to be in compliance with ethical standards, the minimal attention to educational value is cause for concern. Also, briefly discussed are matters associated with the advancement of science. (Author/GK)

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Introductory Psychology Subject Pools:
Educational and Ethical Problems

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Abstract

Seventy-seven of 100 universities surveyed responded to questions regarding educational, methodological, and ethical practices in using introductory psychology subject pools. While it appears that universities have become more concerned with ethics, the minimal attention to educational value is cause for concern. Advancement of science associated concerns are also discussed.

In many areas of psychology, undergraduate psychology students have been the primary source of data collection. In 1977, 73.2% of the articles in the Journal of Personality and Social Psychology and 92.7% of the articles in the Journal of Experimental Psychology: Perception used undergraduate psychology students (Kulich, Seldon, Richardson, & Servies, note 1). These statistics occur in spite of criticisms regarding the validity and generalizability of this data (Rosenthal & Rosnow, 1969). Others have questioned the potentially coercive nature of these subject pools (Cook, Kimble, Hicks, McGuire, Schoggen, & Smith, 1971). Concern has been expressed regarding educational value as a justification for subject pools (Britton, 1979; Davis & Fernald, 1975; Miller, note 2). These questions of ethical practice, scientific value and educational value clearly indicate that subject pool practices must be carefully scrutinized.

Jung (1969) found that 97% of the universities surveyed indicated that educational value was the justification for introductory psychology subject pools. Yet 38% required no feedback of the methods and purpose of the experiment. A large percentage of those that did require feedback did not require immediate feedback, meaning subjects must return at a later time to learn about the experiment.

Britton (1979) found that students reported less satisfaction with regard to the educational value of experimental participation than with other aspects. Recently, an associate editor for American Psychologist, reacted to concerns about the validity of educational claims thusly;

"Your point about the claims of educational value being phoney is nothing to be surprised about. Anyone associated with the research enterprise knows that this has never been a serious consideration" (Bevan, Note 3)

While it is clear that universities wish to portray experimental participation as an educational endeavor, it is not clear that it is a main concern in the maintenance of the pool.

Principle six of the American Psychological Association's ethical guidelines (Ad hoc Committee on Ethical Standards in Psychological Research, 1973) pertains to the educational value of experiments.

"Ethically acceptable research begins with the establishment of a clear and fair agreement between the investigator and the research participant that clarifies the

responsibilities of each. The investigator has the obligation to honor all promises and commitments included in that agreement."

Unfortunately, where introductory psychology subjects pools are used, this agreement may be something less than "clear." Inclusion of the research participation requirement in course descriptions, its requirement as a course component, and most likely the manner in which it is explicitly or at least implicitly presented to students indicates that the subject's assistance will be repaid with a contribution to the student's knowledge of psychology. Unless some other form of equitable payment is given, such a failure may represent an abuse of power as educators and controllers of grades for personal benefit or the benefit of one's colleagues.

Jung (1969) indicates that about 90% of behavioral science data is collected from undergraduate psychology students. Publication competition, graduate student competition, and declining enrollment in some universities are factors increasing the number of experiments subjects are required to complete. This repeated use of subjects affects experimental outcomes (Holmes, 1967; Page, 1968, 1969; Rosenthal & Rosnow, 1969; Silverman, Shulman, & Wiesensthal, 1975). In spite of the demonstrated signifi-

cance of these factors, no information is available regarding the number of experiments in which students participate or how these students are selected for each individual experiment.

Prior to the publication of ethical standards for the conduct of research with human subjects (American Psychological Association, 1973), Jung (1969) collected information regarding subject usage practices at 60 universities. His results indicated that 45.3% required experimental participation without other options to fulfill that requirement. The ethical guidelines raised numerous questions regarding the practice of requiring participation. Subject pools were given special consideration, and recommendations were developed. These recommendations include the inclusion of the experiment requirement in course listing, options to experimental participation, committee review, informed consent (including the recommendation that subjects be allowed to select the experiment in which they participate), informing subjects they may leave at any time, and evaluation of the effectiveness of procedures. Ten years later, after the ethical issues have been discussed and published, up to date information about subject pool practices is needed by educators and researchers alike.

Method

The most cited one hundred universities from the United States, Canada, and the United Kingdom, based on total citations in the Science Citation Index for 1978 (compiled by Endler, Rushton, and Roediger, 1979), were surveyed. This high performance subset was selected for a number of reasons. First of all, it reflects a population similar to that which Jung chose when he surveyed universities awarding the most doctorates. Of the 60 universities from which he solicited responses, 49 were among the 100 universities this study surveyed. Jung points out that this group has the largest impact on practices at other universities. These universities are likely to have the greatest impact on psychology in general. Most importantly, it is likely that these universities promote all three goals (advancement of science, ethical compliance, and education of students) with sufficient rigor to make their responses meaningful. This homogeneity of the sample was deemed more desirable than any sort of representative sample. With the variability of research demand across a representative sample of colleges and universities, it is unclear what a representative sample of these universities would represent.

Survey items were based on dimensions employed by Jung (1969), and on newly salient goals of the subject pool as suggested by Miller (note 2). The questionnaire was limited in length to insure sufficient response rates. Psychology departmental chairmen were sent a two page questionnaire along with a return-addressed stamped envelope. After four weeks, a second request was mailed to universities which failed to respond to the initial request.

Of the 100 universities to whom questionnaires were mailed, 51 responded to the initial request. An additional 26 surveys were received in response to the second request. No responses were received from the United Kingdom. Because one university used varied systems at its various major branches, it was necessary to exclude them from the analysis. Of the 76 universities responding, seventy (92%) utilized some form of introductory psychology subject pool.

Results and Discussion

The average university required 4.1 hours of participation per subject (university as the unit for computation of the mean). The average number of hours required of each subject was 3.9 (student as the unit for computation of the mean). Universities ran an average of 2176 subjects per year for a total of 8493 experiment hours per university.

As expected, the publication of ethical guidelines for research has resulted in a general shift in subject utilization procedures. Universities are shifting to less coercive systems than found in previous surveys. Experimental participation as a requirement, with other options to fulfill that requirement has become the most popular form of subject pool (see Table 1). Only two universities are in discord with the APA guidelines in not offering an option to fulfill this requirement. A substantial number of universities give extra credit for experimental participation (27.2%). Half of these do so without offering an option for earning extra credit. Denial of that opportunity in a competitive, academic environment may be inconsistent with the spirit of the APA ethical guidelines. The grades of the majority of students tend to effect the grade of others. Extra credit which almost all are likely to complete differs from a requirement only in its illusory effect on students. These students are denied the opportunity to compete through the earning of extra credit.

Insert Table 1 about here

Comparisons to Jung's sample must be viewed cautiously. The nature of the sampling is not appropriate to inferential statistics and comparisons are made solely on the basis of descriptive statistics. Ten years ago, Jung (1969) reported that 50% of universities reviewed required participation (not as an option). This practice has become relatively rare (2.9%). The use of totally volunteer or gratis subjects may be on the rise. Jung reports that 4.1% of the subjects used were totally volunteer in 1969. Of those who used subject pools, 8.6% do so in a totally volunteer system. An additional 8% used no subject pool. While the ethical implications of this change are encouraging, the generalizability of the totally volunteer subject can be questioned (Rosenthal & Rosnow, 1969).

Most universities appear to be in compliance with ethical standards. Subjects are always allowed to leave the experiment (100%), generally must be told that they (87.1%), and usually receive the same credit they would if they had stayed (77.1%).

The majority of universities allow subjects to select the experiment in which they will participate. Jung found that 67% allowed subjects to select the experiment in which they are to participate, while this study found that 81.4% allowed subjects to make this choice. Obviously, the more

explicit the description the subject receives, the more likely it is that this selection process will yield a non-representative or biased sample. It seems that most consider the methodological disadvantages of this method to be outweighed by its ethical advantages.

The percentage of universities requiring feedback and debriefing has risen sharply since Jung's analysis. While he found that 62% required debriefing and feedback, this study found that 95.7% required this debriefing, either in written form, orally or both. Furthermore, it is generally required that this debriefing be immediate (64.3%). Jung found this to be the "usual" practice among only 33%.

The frequency with which debriefing attendance is optional for the subject suggests that many do not feel that the knowledge obtained is essential to credit for the course (50%). However, the increased frequency of immediacy of feedback probably enhances the attendance at debriefings (64.3%). Less than half the universities (44.9%) require that the educational value of the experiment be established by the experimenter. While educational value is a frequently professed goal, measures to insure its occurrence and assess its efficacy are quite rare.

(1.4%). Only 15.7% go so far as to assess the students perception of the value of the experiment (see Table 2).

Insert Table 2 about here

It is quite feasible that mere exposure results in learning. What kind, how much, and the extent to which that learning is relevant to the goals of the undergraduate psychology course has yet to be assessed. This mere exposure hypothesis has certainly not been accepted by most academicians, since testing continues to be prevalent in most courses. Some assessment of this learning, minimally in the form of perceived learning, is critical if educational justification is to continue.

Davis and Fernald (1975) note that cross semester uniformity in research participation ^{requirements} is consistent with educational justifications for experiment participation ~~requirements~~ since the requirement is a function of course objectives rather than the needs of researchers. While most universities (63%) maintain constant experiment participation requirements, they often vary with the demand for subjects (22.2%).

In general, it seems that the present zeitgeist has properly attuned psychologists to a concern for ethical

compliance. However, the only utility of having a subject pool at all is the extent to which it serves to educate students and advance science. With the fading of random assignment of subjects to experiments, with some subjects choosing alternative projects, and with the need to get volunteers who are sufficiently motivated to complete the extra credit assignment, one wonders whether the field will move ahead more quickly with an easy access subject pool which prompts more frequent, ill-considered research. Little has been done to provide evidence that experimental participation is a valuable pedagogic device. If claims of educational value are phoney, and, as suggested by the aforementioned journal editor, everyone associated with research knows they are phoney, the ethical implications are astounding. If on the other hand, there are a considerable number of researchers who continue to believe in fulfilling their educational obligation to student, emphasis should be placed on maximizing these utilities. When one looks at the research in terms of cost, we are satisfied that the expense for subjects (stress, etc.) and researchers (time, cost of paying subjects) remains relatively low. However, directing attention toward minimizing cost without attention to the benefits which should follow is simply the penny pincher's folly.

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Table 1

Portion of universities using means
of soliciting introductory psychology subjects

Basis of Participation	N	%
Totally volunteer	6	8.6
Extra credit	9	12.9
Extra credit with other options for earning this extra credit	10	14.3
Requirement	2	2.9
Requirement, with options for fulfillment of the requirement	41	58.6
Other	2	2.9
Total	70	

Table 2

Portion of universities using means of
evaluation of the educational value of the pool

Knowledge Assessment	N	%
Knowledge is tested	0	0
Student's perception of value is assessed	11	15.7
Students complete experi- ment associated assignment	1	1.4
No assessment is done	54	77.1
Other	4	5.7
Total	70	

Footnotes

1. The author would like to acknowledge the contributions of Ronald J. Kulich in data collection and criticism of the manuscript.
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